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(71) Applicant (for all designated States except US): UNIVERSITE LAVAL [CA/CA]; Quebec, Quebec G1K 7P4 (CA).

(72) Inventor; and

(75) Inventor/Applicant (for US only): ROY, Sébastien, Joseph, Armand [CA/CA]; 305 Rte du Fleuve RR1, Beaumont, Quebec G0R 1C0 (CA).

(74) Agent: ADAMS, Thomas; Adams Patent & Trademark Agency, P.O. Box 11100, Station H, Ottawa, Ontario K2H 7T8 (CA).

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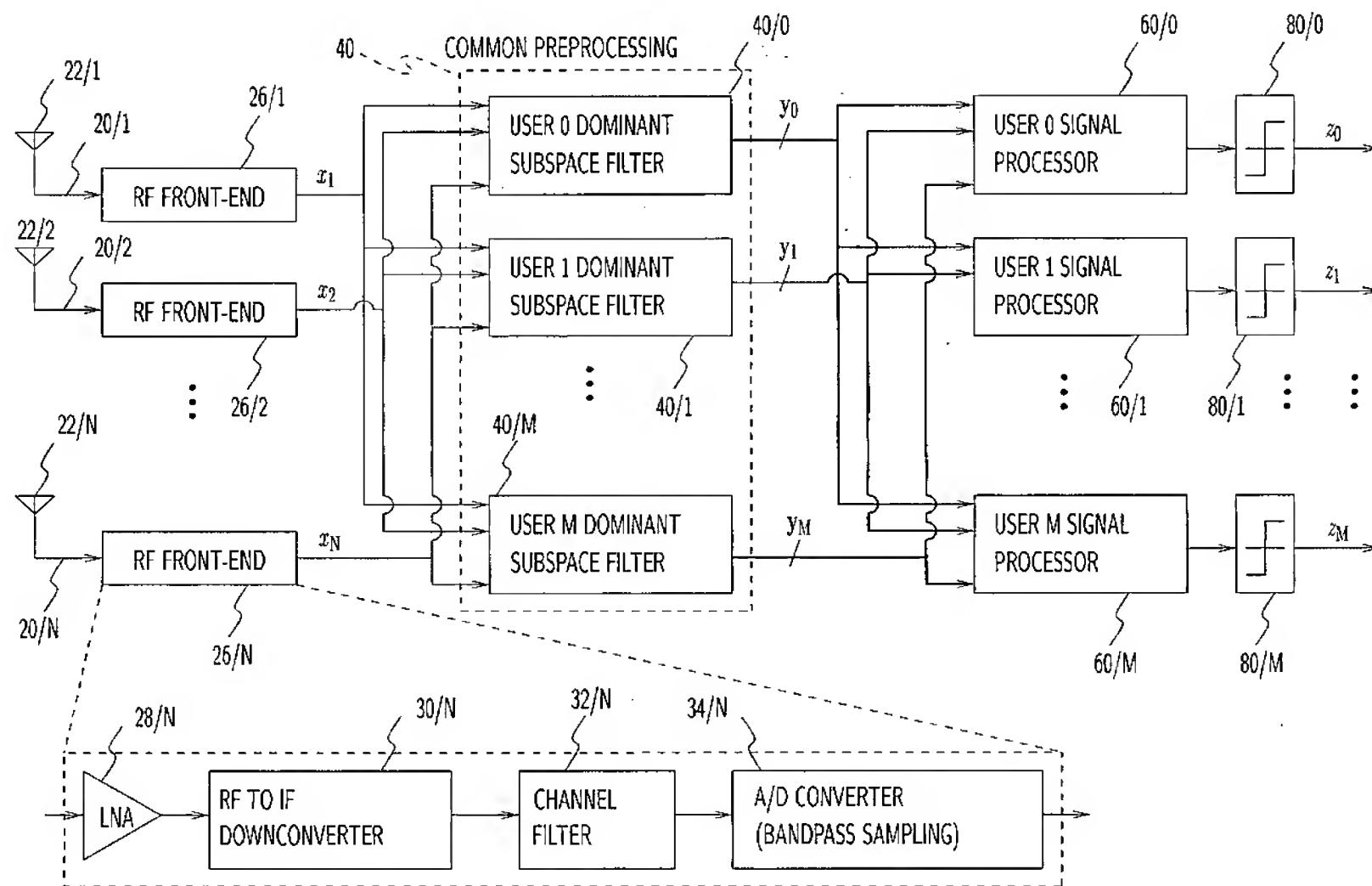
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Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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(54) Title: MULTI-USER ADAPTIVE ARRAY RECEIVER AND METHOD



(57) **Abstract:** An array receiver which reduces complexity and cost by exploiting multiuser information in signals received from a plurality of transmitting users preprocesses (40) samples of antenna signals (x_1, x_2, \dots, x_N) from the antenna elements (22/1, ..., 22/N) to form basis signals (y_0, \dots, y_M) together having fewer space-time dimensions than the space-time dimensions of the combined antenna signals. The receiver processes and combines the basis signals to produce sets of estimated received signals (z_0, \dots, z_M), each for a corresponding one of the users. Each of the basis signals comprises a different combination of the antenna signals. The receiver combines the basis signals to provide a user-specific output signal, and periodically updates parameters of the filters (40/0, ..., 40/M) used for deriving each particular basis signal such that each user-specific output signal will exhibit a desired optimized concentration of energy of that user's received signal as received by the array antenna.



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